

Paraprofessional Library Education in Canada: An Environmental Scan

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Abstract

This article represents a current environmental scan of 14 Canadian, English-speaking, paraprofessional library education diploma programs. The results were used to provide an overview of the development, current state, and possible future trends of paraprofessional library education in Canada. The patterns and relationships among the programs were identified, and the curriculum content of these traditionally skills-based programs was examined. It was discovered that the programs predominately focus on practical skill development, as evidenced by course titles and descriptions. Graduates may benefit from a greater proportion of courses that emphasize broader intellectual content in the curriculum, as recommended in recent studies on paraprofessional roles and industry changes.

Keywords: paraprofessional, library technician, library education, diploma education

Introduction

Historically, there is a significant difference in the educational focus of graduate degree programs and those at the diploma level within the library and information profession. Graduate-level library education is typically theory based and emphasizes research and knowledge advancement (Ingles et al. 2006, 113). Diploma-level studies provide training for library technicians and have historically focused on practical skill acquisition or those concrete skills required for successful employability (Canadian Library Association 1989, 3; Davidson-Arnott and Kay 1998, 555; Ingles et al. 2006, 113; Raju 2004, 77). Further, Raju (2004) describes the library and information professional, or librarian, as being involved in “high level planning, development, design and evaluation” (77), whereas the library technician is engaged in “the application of known techniques and principles, in the organization and supervision of systems

designed by professionals” (77–78). The education of library technicians, who are largely referred to in the literature as paraprofessionals, has been described as “emphasizing the ‘how to’ rather than the ‘why’” (Davidson-Arnott and Kay 1998, 556).

The literature suggests that paraprofessionals are taking on more sophisticated roles in the workplace (see, for example, Dinkins and Ryan 2010, 285; Fragola 2009, 24; Gremmels 2013, 234; James, Shamchuk, and Koch 2015, 13; Zhu 2012, 140). In addition to more complex tasks, paraprofessionals and librarians are experiencing the blurring of roles and responsibilities as, among other changes, paraprofessionals assume a greater public service role, which was previously the domain of the professional librarian (James, Shamchuk, and Koch 2015, 13). Due in part to these role changes, some authors suggest that those disciplines that are traditionally skills based, like library technician programs, would benefit from stronger elements of general or knowledge-based education (Jacobs and Raju 2008, 12; Raju 2004, 91).

Given these recent findings, it is a useful, if not imperative, exercise to investigate what the current paraprofessional educational offerings are in Canada and if changing competencies are being addressed. This study examines the evidence collected from an environmental scan of 14 current paraprofessional library education programs in Canada (see Appendix A). This research will be used to provide an overview of the development, current state, and possible future trends of paraprofessional library education in Canada. Patterns and relationships among the paraprofessional education programs were identified, and any evidence of a shift in curriculum of these traditionally skills-based focused programs was examined. The research questions that were addressed are:

- (1) How has paraprofessional library education developed and evolved in Canada?
- (2) What are the current course offerings in the fourteen English-speaking, paraprofessional library education programs in Canada and what are some predominant themes?

(3) Is there evidence these traditionally skills-based programs include general, or knowledge-based curricula, evidenced either in course offerings or in course descriptions?

Terminology

In Canada, the library paraprofessional is most often referred to as a library technician, whereas in the United States, a variety of titles describe a library worker who typically holds some level of post-secondary education. The American Library Association (ALA) uses the term library technical assistants to mean “persons with certain specifically library related technical skills” (American Library Association 1997, para. 4). In Canada, there is a greater tendency to consider education in the definition of a library technician. Howarth (1998) offers two categories: “(1) library technicians who hold a diploma in library and information techniques from a college of applied arts and science and who may also hold an undergraduate degree; and (2) paraprofessionals who hold at least an undergraduate degree but who do not have a diploma in library and information techniques or a degree in library and information science or information studies” (526). The Canadian Library Association’s (CLA) (2011) Guidelines for the Education of Library Technicians define library technicians as “[playing] an important role on a library staff, occupying a position with a level of responsibility between that of a clerk and a librarian” (2) and state that the majority of the programs are two years in a post-secondary education setting, with the exception of Quebec that follows a three-year combined general/technical education program (3).

The literature consistently uses the term “paraprofessional” to describe library technicians, technical assistants, or other terms used to describe this level of library employee. Therefore, in this article, unless reporting on literature or educational programs that use other terms, “paraprofessional” will be used to describe library technicians who hold at least a two-year diploma credential from a post-secondary institution.

Literature review

History and development of library paraprofessional education

Compared to graduate-level education, which started in the United States with the establishment of Dewey's School of Library Economy in 1887, formalized library paraprofessional education in North America has a relatively short and controversial history (Wilson and Hermanson 1998, 468). The general consensus was that differing levels of library education were necessary, but, outside of the opening of a few technical programs in the United States in the 1940s and 1950s, the support for this education was only a theory. A recommendation, made in a report prepared for the Carnegie Corporation of New York in 1923, called for formalized training in specific types of library work, including para-professional work (Nettlefold 1989, 526). However, it was not until 1971 that the ALA wrote criteria for the establishment of what was called library/media technical assistant programs (ALA Bulletin 1969, 787). In Canada, the library community was at first indifferent and even opposed to the idea of a formal education process for library technicians (Weihs 1977, 420). Gertrude Perrin, who was responsible for the first Canadian program at the Manitoba Institute of Technology in 1962, wrote, "in spite of some opposition from professional librarians the trustees felt that there was a place in public libraries for training assistants of a sub-professional standard" (quoted in Weihs 1977, 421). The 1966 CLA convention was the venue for further discussion on the education of paraprofessionals, where June Munro stated: "There is a clear call for specific training at the library technician level" (cited in Weihs 1977, 422).

In 1967, the CLA published a set of guidelines for the education of technicians (Nettlefold 1989, 527–28). These guidelines were subsequently revised in 1974, 1982, 1991, and 2011, indicating an effort by the association to formalize and legitimize education practices for library paraprofessionals. Since the publication of the first guidelines in 1967, the CLA has "demonstrated an on-going interest in the role of library technicians as well as in the type and quality of educational programs they should receive" (Montgomery 1982, 159). The

association's role was to provide advice on the broader aspects of the paraprofessional education (including recommended competencies), while leaving curriculum design to the individual programs.

Call for changes to educational focus

Since the establishment of Dewey's school, it is the practice of graduate-level library science curricula to assume a theoretical and research focus. It has been less clear what the focus of library paraprofessional education should encompass. In 1949, Erret McDiarmid, a library school professor at the University of Minnesota, was the first to examine what a paraprofessional, or support staff, education should encompass. McDiarmid stated: "The almost complete neglect of the problems involved in training workers below the professional level resulted in conditions which are very dangerous to the future of librarianship" (quoted in Wilson and Hermanson 1998, 476). McDiarmid felt that the development of a general knowledge base was not the purview of professional librarian education alone; that support staff also would benefit from a general education. There were still non-professional duties that required focused training, but his pro-posed curriculum would ideally include "both library techniques and general education" (476). The ALA was not willing to take the lead in establishing McDiarmid's vision, so the responsibility of paraprofessional curriculum content fell (and continues to fall) to the individual colleges that established such programs (476).

The Canadian library community has provided more formalized direction on the education of library paraprofessionals. The 1973 Guidelines for the Training of Library Technicians recommended that 50% of courses include general academic studies, "directed towards broadening the student's academic experience, education, and enhancing his career development" (Weihs 1977, 423–24). However, Jacobs and Raju (2008, 2) reported that in most cases library technician programs remain focused on technical education and lack significant inclusion of a general, or knowledge-based, curriculum that could address the more sophisticated skill set required of the paraprofessional (5). Knowledge-based education, also

referred to as general education, is defined as education that will “train the mind and cultivate the intellect,” as opposed to education focused on specific skill training (2). Graduates of diploma-level programs have not had the benefit of a general education accessed through a baccalaureate program. Graduates of a Master’s degree in library and information science have had such preparation through their undergraduate work (Raju 2004, 91). With more complex roles being assumed by library paraprofessionals, these authors argue that paraprofessional education should prepare graduates for these higher-level competencies and include elements of a general education in its traditional skills-based curriculum. Such general-based education could prepare the library paraprofessional with the deeper knowledge context required by contemporary referencing, cataloguing, and technological work (Jacobs and Raju 2008, 2). This may occur either through non-LIS course offerings or through library course descriptions, evidenced by knowledge-based terminology.

As these authors claim, the knowledge, skills, and abilities required of the new paraprofessional might be changing; yet programs may not be adjusting to the changing competency requirements (Jacobs and Raju 2008, 2). Among other emerging roles, paraprofessionals are assuming managerial positions as well as other high-level positions, so “the need for skills that, at least partially, defined professional librarianship increases” (5). A general, or knowledge-based, focus of education, Jacobs and Raju suggest, could address this issue (11). Other para-professional role changes, identified in recent research, indicate that public service-oriented work is becoming more predominant than technical services work (James, Shamchuk, and Koch 2015, 13). Although technical service work is traditionally a paraprofessional responsibility (Howarth 1998, 532), cataloguing work has largely become an automated process, freeing up the paraprofessional for other, possibly more challenging duties (Gremmels 2013, 235; Zhu 2012, 141).

Further, a recent study, “Training Gap Analysis: Librarians and Library Technicians,” found the most needed skill development involved “personal competencies rather than strictly

applied skills, which are largely outside the domain of educational programs” (Ingles et al. 2006, 108). They recommended pro-gram heads should reassess curriculum content and consider a balance between “general, IT, public service and communication skills course offerings” (108). The “8R’s Redux: CARL Libraries Human Resources Study,” an update to the 2006 study, examined professional and paraprofessional educational preparation among institution employees in college and research libraries and reiterated the need for more complex skill development (in leadership and management, primarily) among both professionals and paraprofessionals (DeLong, Sorensen, and Williamson 2015, 115). The trend has continued with role overlap, particularly around public service tasks, library instruction, and collection management duties (72). Given the continued evidence of role changes, the 8R’s research team suggested further research on ideal educational preparation for both professional and paraprofessional library staff (77).

Similar Studies

There are no recent environmental scans of library paraprofessional curricula in Canada or the United States. Any recently published research has centred on graduate-level LIS curricula. There was a series of surveys published on library technician education in Canada from 1968 to 1986 (see, for example, Weihs 1979), but there have been no attempts to continue the survey by the CLA or by other researchers. In 2004, Weihs and Davidson-Arnott (2004, 38) presented a chapter on library technician programs within a text on the history of library and information studies education and compared paraprofessional programs in Canada. The article provides historical context and makes general observations on course content, such as the increase in technological training in library technician programs in the 1990s and early 2000s.

Environmental scan methodology

The purpose of this study is to present a current environmental scan of the 14 English-speaking, paraprofessional library education programs in Canada (see Appendix A). Only programs that lead to a credentialed diploma were investigated (accelerated one-year programs

and two-year or three-year programs). During the spring of 2016, course titles and descriptions were gathered from institutional websites and coded using the Association for Library and Information Science Education's (ALISE) Library and Information Studies Research Areas Classification Scheme (provided in Appendix B).¹ The ALISE classification scheme, with 10 major classes and 104 subjects, is a comprehensive and detailed listing of the LIS competency categories. A similar scheme focusing specifically on paraprofessional competencies does not exist. The closest thing to a paraprofessional competency list is the CLA's Guidelines for the Education of Library Technicians, which was mostly recently updated in 2011. These guidelines provide a brief list of desired skills for the job; however, they do not address course topics in the detailed and comprehensive way that the ALISE classification scheme does. Both manual and automated machine classification through NVivo, a qualitative data analysis software program, organized the topical characteristics mentioned in course descriptions. Each course was assigned multiple subjects based on the course title and description. In addition, subjects were not assigned solely on an exact word match but, rather, aligned with the general theme of the description and subject. To supplement data collected from institution websites, email correspondence took place between the research team and the various program leads around Canada. Ethics approval was granted by MacEwan University's Research Ethics Board. All program leads were asked if there were program or major course changes that had recently occurred but were not yet reflected on the websites. Eleven of the 14 program leads responded to the email correspondence with further information.

Results

Demographics

Paraprofessional education programs exist across Canadian provinces, with the exception of Newfoundland, New Brunswick, and the Northwest Territories. There are two programs in both British Columbia and Alberta, and one program is offered in each of Saskatchewan, Manitoba, Quebec, and Nova Scotia. Ontario has six programs. A certificate

program at Memorial University in Newfoundland was discontinued in 2016 and not examined in this study. French language pro-grams in Quebec are not included in this study (for a geographical representation and list of all programs included in this environmental scan, see table 1 in Appendix C).

Name of program

There is only a slight difference between the names of the programs across Canada: six are named Library and Information Technology; six are named Library and Information Technician; one is named Library Information Technology; and one is named Information and Library Technologies. All six of the programs in Ontario are named Library and Information Technician, which is one of the few regional anomalies noted in this study. This is likely due to the cohesive nature of OntarioLearn, a partnership of 24 Ontario community colleges (see table 2 in Appendix C for a chart grouping the different program names by institution).²

Department affiliation

Four programs are affiliated with their respective institution's School of Business, and three programs are housed within Continuing Education. The rest of the library programs are affiliated with the School of Information and Communication Technology, Community Services, the Faculty of Professional Studies, the School of Health and Community Studies, or Science and Technology. This diversity in program location speaks to the interdisciplinary nature of the library field (see table 3 in Appendix C for a chart linking each program to the various institutional faculties, departments, and schools).

Length

The majority of schools offer a two-year program of study. However, Seneca College in Ontario runs a three-semester accelerated program, and John Abbott College's program in Quebec is three years long.

Mode of delivery

Eleven programs are open to full time students, and though most programs allow students to take courses part time, only six have a formal option for part time study. Most schools offer classes on a physical campus, with the exception of Conestoga, Confederation and Mohawk Colleges, who market their program specifically as an online program designed for part time study by individuals who already work in the library field. Conestoga, Confederation and Mohawk College have a unique relationship in that their programs are connected, thus if students at Conestoga or Confederation register in the online program, the courses are delivered by a Mohawk instructor. Five programs do not provide online library focused courses, and one program indicated they were in the process of creating online courses.

Transferability

Transfer agreements assist the bridging of a library diploma to a degree for paraprofessional students wishing to further their studies. The “8Rs Redux: Canadian Association of Research Libraries Human Resources Study” reports that, in the Canadian academic library sector, the number of librarians who also possess a library technician diploma has risen from 2% to 14% since 2004, and 24% of paraprofessionals surveyed were interested in obtaining a MLIS (DeLong, Sorensen, and Williamson 2015, 113). Most programs have formal transfer agreements in place. Seven programs offer between one-to-two-year credit transfer to a bachelor of arts or a bachelor of professional arts. Three programs facilitate two-year course credit for a bachelor of applied management. Other transfer options offered by at least one program include a bachelor’s degree in business administration, applied science, technology, and general studies. One program offers minor partial credit to a bachelor’s degree in education.

Algonquin College launched a joint degree program with Carleton University in September 2016 providing students with a bachelor’s degree in information technology/information resource management as well as a diploma in library and information technician, after four years. This

collaboration also provides a diploma exit option after two years; however, the courses in the diploma and diploma/degree tracks are not identical, and students will not be able to opt out in the third year of the diploma/degree program to just receive their diploma. This degree was designed to meet vocational learning outcomes, employability skills, and general education requirements.

Across the country, Ontario has the most robust and extensive arrangement of transfer agreements between the post-secondary institutions. In addition to a formal paraprofessional library education transfer arrangement, the six library paraprofessional colleges in Ontario provide a wide variety of options for general course transfer potential that are searchable via the ONTransfer database.³ Institutions around the country will accept some general course transfer, though options outside of Ontario are not as easily identifiable and involve contact with advisors or the registrar at the various institutions.

In addition, there are currently two international universities that recognize the Canadian credential. Charles Sturt University in Australia will transfer up to 13 courses into a bachelor's degree in information studies for any applicants who have a library technician diploma from any recognized Canadian program. Currently, only Mohawk College has a formal relationship with Charles Sturt University listed on its website, though presumably any diploma from one of the 14 programs would be transferable upon negotiation. Two programs also have a transfer agreement with Davenport University in the United States. Beyond these two institutions, the majority of transfer options are for Canadian institutions (for diploma transferability options by program, see table 4 in Appendix C).

Continuing Education Certificates

Two programs offer post-diploma certificate options for graduates or members of the library community to continue upgrading their library related skills. Mohawk College launched a part-time, online, library and digital technologies post-diploma certificate in 2015. There are 12 courses, which include the following topics: leadership, digital media, digital resource

management, user experience, metadata, and instruction. The University of Fraser Valley offers a library technician post-diploma certificate as a part-time online program for library technicians to address topics relating to the profession. Currently, there are five courses of study relating to emergent technologies, leadership, advocacy, diversity and information rights, and privacy and freedoms. In addition, the Southern Alberta Institute of Technology offers two online certificate programs, one in information and records management and one titled the library operations certificate of achievement. These certificate programs are separate from the diploma program and do not have transferability or pre- or co-requisites.

Course comparison

After coding the course descriptions gathered from individual program websites, the researchers were able to identify the most- and least-mentioned subjects across all 14 programs, based on the ALISE classification scheme (located in Appendix B; see table 5 in Appendix C).

Discussion of courses using ALISE categories

Collection development

There is a high occurrence of collection development topics mentioned in the course descriptions, which echoes a survey by James, Shamchuk, and Koch (2015, 9), where collection work ranks third for major work responsibilities of library technicians (after public service and cataloguing). All of the programs have at least one course dedicated specifically to collection development. Most programs also include specific subtopics such as serials, licensing, preservation, and collection of subject materials. Very few programs cover the collection development of highly specialized collections (such as music, rare books, or special collections) in depth. The subjects of acquisitions theory and practice, collection development, and serials all ranked high for mentions in course descriptions. It is difficult to determine whether the focus of collection topics is theoretical or practical, based only on course descriptions. Due to ongoing technological advancements and the perceived role shifting in this area, delivering a

robust theoretical overview of collection principles, as opposed to only practical processes, may be more useful preparation for the current work environment.

Development/Principles of LIS

With this particular category, we interpret LIS to mean a study of library and information science as a discipline and not exclusive to professional librarianship. All fourteen programs adequately cover the development and principles of library and information sciences, as evidenced by the frequency of subjects such as 'LIS as a Discipline', 'History', and 'Philosophy, Values and Ethics'. However, less than half the programs make explicit mention in their course descriptions about topics such as ethics, intellectual freedom, censorship, libraries within society, and information policy. It is somewhat concerning that these significant topics are not prevalent in course descriptions; however, it is assumed these important concepts are discussed at some point within paraprofessional education. Course descriptions may need revision so these topics are emphasized as important foundations of library studies, as they are a significant part of the daily work of a paraprofessional.

Information Systems and Retrieval

There appears to be a strong emphasis in course content on information technologies, shown by the crossover between courses that speak to information technology development and search techniques, as well as by the number of stand-alone courses on information technology. 'Database and Online Catalog Retrieval Systems' topics were covered extensively by all programs. Most programs do cover 'Information Systems and Technologies' to some extent, including topics such on 'Social Software Applications' and 'Information Technology Management'. Some course titles covering these topics emphasize the focus on technology used to provide library services, and are stand-alone courses: for example, Emergent Library Technologies, Library Software, Libraries of the Future, Information Technology for Library Technicians, and Information Systems Design. None of the programs, according to the course descriptions, cover more specialized topics such as 'Information Integrity and Security' and

'Information Architecture'. Technology is often discussed within the context of user services in other courses, so there may be even more prevalence and attention on information technologies than evidenced by this category. Nonetheless, the prevalence of courses on information technology is encouraging, and supports earlier recommendations to balance technology courses with other areas such as collection development and public service.

Management/Administration

Topics relating to management are present in all programs, particularly the subtopic 'Personnel', though very few programs have specific courses on 'Buildings/Facilities' or 'Funding'. Most courses focus on managerial roles, behavior, and techniques. Common course titles include Library Operations, Information Management Administration, Human Relations in Libraries, and Leadership for Library Technicians. Most course descriptions appear to be introductory and practical in orientation rather than theoretical; for example, using descriptions such as "Learn to apply basic principles of effective supervision". As paraprofessionals continue to assume greater supervisory, management, and financial roles in the library, additional coursework may be extremely beneficial, either within the core curriculum or emphasized as an important elective or a post-diploma offering.

Organization of Information

All programs include cataloguing courses that cover the principles of the Anglo-American Cataloguing Rules, and nine programs specifically note the content of Resource Description and Access. Cataloguing and classification concepts still dominate paraprofessional education, if the course descriptions are any indication. Two programs offer only two courses, but all other programs offer between three and six required cataloguing courses (however, not all are typical 45-hour courses; some are shorter than 36 hours and for less credit). Due to evidence of role changes mentioned previously, the need for multiple courses on descriptive cataloguing, classification, and indexing has lessened over time. All programs offer a course specifically on records management, and some offer an advanced course, which also may indicate that the

paraprofessional's role is beginning to extend to other areas of expertise outside of traditional library work. Programs may increase relevant content delivery as they concentrate efforts in other emerging areas, such as records management.

Services to user populations

Reference and information service is one of the highest-occurring categories for paraprofessional education. It is not surprising that traditional topics such as reference services, reader's advisory, print tools used in reference, search skills, and philosophies of customer service are extensively represented in all library programs. All programs include at least one course on reference skills, and most programs have a required children's and/or young adult literature, storytelling, or programming class. Literacy and reader's advisory topics are also covered by most programs. There are just as many examples of course topics that cover electronic reference services, indicating there is equal attention paid to both service principles and philosophy and contemporary, trending resources and service methods. Examples that demonstrate this balance are course titles such as Library Technologies and Information Management, Reference Resources and Services, Information Work, Advanced Internet Information Retrieval, Client Services, and Internet Applications.

Most programs touch on services to diverse users such as multicultural, senior, gay, lesbian, bisexual, trans, and queer populations, or users with dis-abilities. There are only three paraprofessional schools with a specific course on Aboriginal issues or services for an Aboriginal population. Ideally programs would have, in addition to generic and introductory reference and information services courses, courses that focus on specific populations of users. Given much recent attention on the Truth and Reconciliation Commission of Canada's (2015) final report, Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada, it is surprising that Canadian paraprofessional schools do not, for the most part, have required coursework on the topic of Aboriginal issues

and services. It may be beneficial for paraprofessional library education to address this critically important social justice issue.

Types of libraries and information providers

All programs provide instruction on the various library types, including academic, public, and special, with most including content on medical, government, archives, school, and digital/virtual libraries. The only specialized information setting not explicitly focused on in course descriptions was museums. Relatively few programs have courses specializing in any one particular type of library—for example, one course description explains “students learn about different types of libraries, their departments and the services they offer their clientele.” Only one program offers a course specifically titled Public Libraries. The subject digital and virtual libraries is not mentioned at all in course descriptions, although it is assumed that it is an embedded topic within courses on digital collections, literacy, and services. Paraprofessional library programs appear to have adequate coverage of traditional library types, without focusing too specifically on any one environment. Such generic knowledge will allow students to transfer their learning to the wide variety of work environments they may encounter after graduation.

Other

All programs require students to take one or more work experience term, field placement, or practicum course. Only one program provides students with the option of completing an independent study. One program lead noted they would like their students to participate in a cooperative style program, highlighting how important experiential learning is for their students. The practicum course appears to be a mainstay in paraprofessional programs, and it is recommended that programs not only keep a required practicum course but also look at alternatives such as cooperative programs to allow for greater work-integrated learning experiences.

Non-LIS courses

All 14 programs require students to take an English or communications course, and two require a French language course. Twelve programs require a course dedicated exclusively to general computer skills, and seven programs include room for electives within their program of study. There is a variety of other non-LIS-required courses offered by one or more programs that include topics such as organizational behaviour, history, human relations, psychology, sociology, and political science. As mentioned previously, only three programs provide education in Aboriginal studies. Providing students with a wide variety of non-LIS options may ensure graduates are equipped with a variety of knowledge-based competencies that complement the LIS curriculum.

Discussion on Skills versus Knowledge-Based Curriculum

Course descriptions of the most-mentioned and least-mentioned subjects were studied to find evidence of both skills and knowledge-based terminology and focus. Drawing from previous assumptions on what delineates skills and knowledge-based approaches, it can be argued that paraprofessional programs are still largely focused on providing a skills-based education. For example, acquisitions topics are often combined with circulation services or serials maintenance processes, and course descriptions largely focus on practical application as opposed to theory. This is evidenced by the following excerpts from course descriptions of the most-mentioned subjects that lend themselves to having either skills or knowledge-based content. For a course titled *Acquisitions Theory and Practice*, the skills-based terminology includes: “explore the technical service aspects of serials with emphasis on ordering, tracking and cataloguing serials,” “develop skills in searching, ordering, receiving and accounting,” “collection maintenance such as bindery and inventory are discussed,” and “enables students to follow the procedures for acquiring all types of material.” Knowledge-based terminology in course descriptions is less frequent. One example that demonstrates a broader approach to collections management is “this course covers the principles, policies and procedures for developing and managing collections.”

Another example of skills-based terminology for courses in reference and information services includes representative phrases in course descriptions such as “students learn reference interview skills to answer general reference questions,” “students acquire an understanding and practical knowledge of the common reference sources used in public services,” and “explore the basics of information work.” Knowledge-based terminology is evidenced by the following phrase, discovered in a course description, and it appears from investigation to be the only phrase in the topical area that moves away from practical reference skill development and towards the theoretical underpinnings of reference services: “Explore fundamental principles of professional accountability that underpin the provision of information services.”

LIS as a profession appears to be an area rich with theoretical emphasis. However, if there are broader, theoretical reflections of the profession present in paraprofessional programs, they are not portrayed in course descriptions. For example, phrases include: “investigate the roles and functions of participants in the information industry,” “the role of the library technician in [public libraries],” “learn about the importance of well-developed communication and interpersonal skills to the profession,” “the roles of information personnel in a variety of information environments,” and “roles and responsibilities of the library technician related to customer service, marketing plans, and event planning.” The focus appears to be on specific roles and functions that might be expected of a technician, as opposed to how the library technician is positioned within an information environment and the values that underpin the profession itself. Those topics mentioned in course descriptions least often, such as information architecture, knowledge management, bibliometrics/informetrics/webometrics, metadata and semantic Web, political economy of information, and libraries and society/culture, can be considered more knowledge based. These topics, along with sparsely mentioned scholarly and scientific communication, instructional design, information policy, buildings/facilities and funding, are traditionally thought to be librarian responsibilities. The findings of this environmental scan do appear to follow these traditional lines of responsibilities.

There is some evidence of a very recent increase in knowledge-based curricula, although it is difficult to know if this is long-standing or a new phenomenon. The assumption is that it is a recent development, evidenced by a growing amount of recent scholarly research surrounding role change and the perceived increased sophistication of paraprofessional roles. In addition, the 2011 Guide-lines for the Education of Library Technicians is focused heavily on practical skill development, and it may be argued that, if new guidelines were developed today, they would address the increasingly advanced knowledge base required of paraprofessionals (Canadian Library Association 2011, 3).

The recent evidence can be seen in the number of non-LIS specific courses (that is, general education, or knowledge-based, courses). All programs have an English/communications course, and many programs include numerous non-LIS-specific courses in the curriculum. Several programs are providing multiple course transfer credit to degrees, backing assumptions that the curricula is sufficiently academic to satisfy entry into degrees in the second or third year of study. In addition, one program offers a collaborative four-year degree. We could assume this degree would have the characteristics, like any four-year degree, of a knowledge-based curriculum. Follow-up conversations with several program leads from across Canada provided further evidence of a knowledge-based approach. One program lead noted their program would like to include an introductory course on knowledge management or at least specific knowledge management learning outcomes in other courses such as their records management course. Another program has recently added a more robust course on social justice issues and culture, noting the need for students to have stronger awareness of these deeper issues in library science. The same program also recently replaced a computer technology course (which focuses on practical computer skills) with a course on fluency in information technology, which focuses more on the role of technology in society. These are relatively limited examples, but they demonstrate that there might be momentum toward expanding the intellectual calibre of paraprofessional education.

Limitations

Due to common and consistent features among English-speaking paraprofessional programs, the scope of this study was limited to English programs only. Additional trends may be uncovered by extending the scope to the French language programs in Canada. Since the ALISE classification scheme was developed for LIS (professional) education, it may not entirely “fit” the paraprofessional curricula. However, even when considering the recently released “ALISE Research Taxonomy,” no other standard categorization tool exists, and the subject categories are both comprehensive and generic enough to suit both professional and paraprofessional curricula (Association for Library and Information Science Education 2016). The ALISE classification scheme was also used to deliberately search for evidence of knowledge-based content, traditionally the domain of professional education, but which is slowly gaining traction in para-professional education. Two classes in the ALISE classification scheme, school libraries and informatics, were not examined in this study due to their absence in course descriptions. Furthermore, the classification LIS education was not coded because it is specific to the provision of professional education and not applicable to this study.

There are further limitations as a result of coding course titles and descriptions from publicly available websites. Since the information available to code specific subjects lacks depth, it is difficult to know the extent and coverage of a subject based on the course’s one-to-three sentence summary. For example, intellectual freedom and censorship was coded to very few course descriptions, although inference can be drawn that most, if not all, programs would cover this subject at some point in their program of study. Learning outcomes or course syllabi would provide richer information on specific course content, as would in-depth interviews or additional formalized surveys with program leads. This environmental scan is the first attempt to examine paraprofessional curriculum across Canada in any depth, thus it is difficult to ascertain if there

are patterns and trends that might be occurring over time in curriculum coverage. Further-more, it is difficult to definitively conclude, without performing a longitudinal study, if there is evidence of a shift in focus from skills-based training to a knowledge-based approach.

Future research

Since a new “ALISE Research Taxonomy” has recently been published, this study, or one that is similar, could be completed using the updated terminology (Association for Library and Information Science Education 2016). Ideally, a similar list would be created specifically for paraprofessional education that would be useful in building curriculum, drawing regional comparisons across institutions, and informing industry of key skills and competencies covered in schools. To capture more detailed information about specific course content and coverage, future research could consult course syllabi and outlines. These documents would contain details on course descriptions and learning outcomes and provide more accurate and comprehensive data. In addition, future similar environmental scans may wish to include, or exclusively cover, the various French-speaking programs in Canada.

In addition, a similar study should be replicated in the future to produce longitudinal results. Future environmental scans would enrich the scant body of literature that describes the history and evolution of paraprofessional education in Canada. A longitudinal study would reveal concrete evidence of a shift from skills-based education to knowledge-based curriculum. Future studies with a qualitative methodological focus, which includes interviews or focus groups, for example, would be useful to draw further conclusions about the dichotomy between skills-based and knowledge-based competencies focused on in paraprofessional education, thus producing richer data on perspectives and predictions of the future of paraprofessional library education.

Conclusion

While there is some evidence that library paraprofessional programs in Canada are developing stronger knowledge-based curricula, the current course descriptions and outlines belie this claim. Recent literature suggests that the library paraprofessional role is changing and

that more advanced skills and knowledge are required. Skills-based vocabulary is still prevalent in current course descriptions, which is especially problematic in areas such as reference, management, and the principles of library and information science, where it could be argued the paraprofessional requires more intellectual, and not just practical, preparation. Specifically, courses focusing on particular populations of users that help expose the paraprofessional to social justice and responsibility concepts would better reflect current industry trends. It would also be beneficial if management and administration courses were expanded to include topics such as leadership theory beyond introductory, practical-based content. As well, course descriptions need to be more overt in describing fundamental principles of LIS, providing articulation of important topics like social justice, intellectual freedom, and intellectual property. Finally, since technical services work assumes less significance in paraprofessional duties, it is recommended that the number of cataloguing courses decrease in favour of public service-oriented training and knowledge-based, preferably non-LIS, courses to help broaden the scope of paraprofessional education. These recommendations will not only ensure seam-less transferability of the diploma credential but will also help to develop the intellectual competencies that the emerging paraprofessional requires.

Notes

1 In the fall of 2016, after the research for this project was completed, the Association for Library and Information Science Education (ALISE) (2016) released an updated version, the “ALISE Research Taxonomy.” Due to the timing of the update, this research study is informed by the superseded ALISE classification terminology. Please see Appendix B for the version of the ALISE classification scheme used for this research.

2 OntarioLearn, “About Us,” <http://www.ontariolearn.com/en/about-us> (accessed 17 May 2016).

3 ONTransfer, <https://ontransfer.ca> (accessed 17 May 2016).

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Appendix A - List of LIT Programs in Canada

The following list is of the English-speaking, paraprofessional library education programs that lead to a credentialed diploma in Canada, as of April 2016. These could be accelerated one-year programs, two year or three year programs, part time or full time, and delivered in class or online.

Alberta

- Grant MacEwan University (Edmonton) - Library and Information Technology
- Southern Alberta Institute of Technology: SAIT (Calgary) - Library Information Technology Program

British Columbia

- Langara College (Vancouver) - Library and Information Technology
- University College of the Fraser Valley (Abbotsford) - Library and Information Technology

Manitoba

- Red River College (Winnipeg) - Library and Information Technology

Newfoundland

- Memorial University of Newfoundland (St. John's) - Certificate Program in Library Studies - Discontinued

Nova Scotia

- Nova Scotia Community College (Halifax) - Library and Information Technology

Ontario

- Algonquin College (Ottawa) - Library and Information Technician
- Conestoga (Kitchener) - Library and Information Technician
- Confederation College (Thunder Bay) - Library and Information Technician
- Durham College (Durham) - Library and Information Technician
- Seneca College of Applied Arts & Technology (Toronto) - Library & Information Technician
- Mohawk College (Hamilton) - Library and Information Technician

Québec

- John Abbott College (Ste. Anne de Bellevue) - Information and Library Technologies

Saskatchewan

- Saskatchewan Institute of Applied Science and Technology (Saskatoon) - Library and Information Technology

Appendix B - Research Area Classification Scheme by the Association by Library and Information Science Education

Collection Development

- Acquisitions Theory and Practice
- Archival Collections
- Arts/Humanities Literatures
- Collections Development
- Electronic Documents
- Government Documents
- Graphic Materials: Maps, Art, etc.
- Licensing
- Music
- Other Materials Types
- Preservation of Collections
- Science and Technology Literatures
- Serials
- Social Science Literatures
- Special Collections/Rare Books
- Preservation and Archiving

Development/Principles of LIS

- Books, Printing, Publishing Industry
- Copyright/Intellectual Property
- Critical Perspectives on LIS
- History of Information Science
- History of Libraries and Library Science
- Information and Society/Culture
- Information Policy
- Intellectual Freedom and Censorship
- Libraries and Society/Culture
- LIS as a Discipline
- LIS as a Profession
- Philosophy, Values, and Ethics of LIS
- Political Economy of Information

Informatics

- Digital Archive Informatics
- Health Informatics
- Legal Informatics
- Museum Informatics
- Social/Community Informatics

Information Systems and Retrieval

- Bibliometrics/Informetrics/ Webometrics
- Computer/Information Networks
- Database and Other Retrieval Systems
- Human-Computer Interaction
- Information Architecture
- Information Integrity and Security

- Information Retrieval Theory and Practice
- Information Systems and Technologies
- Information Technology Management
- Information Visualization
- Online Catalog Retrieval Systems
- Social Software Applications
- Users and Uses of Information Systems

LIS Education

- Continuing Education in LIS
- Distance Education in LIS
- International/Comparative Librarianship
- LIS Education and Programs
- LIS Faculty, Students
- Pedagogy in LIS
- Research Methods

Management/Administration

- Administration and Management
- Buildings/Facilities
- Evaluation of Service
- Funding
- Personnel
- Strategic Planning, Marketing, Lobbying

Organization of Information

- Archival Description/RAD
- Classification and Subject Analysis
- Descriptive Cataloguing/AACR
- Descriptive Cataloguing/RDA
- Indexing and Abstracting
- Knowledge/IR Management
- Metadata and Semantic Web
- Organization of Information
- Records Management

School Libraries

- Curriculum Integration
- Instructional Design
- Production of Materials
- Role of the School Library Media Specialist

Services to User Populations

- Adult Services
- Children's Services
- Children's/YA Literatures
- Diversity Issues
- Electronic Reference Services
- Information Literacy and Instruction
- Information Needs and Behaviors/Practices
- Information Needs/ Behaviors of Specific Groups
- Information Needs/Behaviors of the Public

- New Literacies
- Reading Advisory Services
- Reading and Literacy
- Reference and Information Services
- Scholarly and Scientific Communication
- Services for Gay, Lesbian, Bisexual, and Transgendered (GLBT) Populations
- Services for Multicultural Populations
- Services for People with Disabilities
- Services for Senior citizens
- Storytelling
- Young Adult Services

Types of Libraries and Information Providers

- Academic Libraries
- Archives and Records Centers
- Community Information Centers
- Digital/Virtual Libraries
- Government Libraries
- Law Libraries
- Medical Libraries
- Museums
- Other Providers
- Public Libraries
- School Media Centers/Libraries
- Special and Corporate Libraries

Appendix C - Tables

Table 1: Programs by City and Province, Presented West to East

Province	City	Institution
British Columbia	Vancouver	Langara College
British Columbia	Abbotsford	University of Fraser Valley
Alberta	Edmonton	MacEwan University
Alberta	Calgary	Southern Alberta Institute of Technology (SAIT)
Saskatchewan	Saskatoon	Saskatchewan Polytechnic
Manitoba	Red River College	Winnipeg
Ontario	Thunder Bay	Confederation College
Ontario	Kitchener	Conestoga College
Ontario	Hamilton	Mohawk College
Ontario	Toronto	Seneca College
Ontario	Oshawa	Durham College
Ontario	Ottawa	Algonquin College
Quebec	Sainte-Anne-de-Bellevue	John Abbott College
Nova Scotia	Dartmouth	Nova Scotia Community College

Table 2: Name of Program by Institution

Name of Program	Name of Institution	Total
Library and Information Technology	Langara College, MacEwan University, Nova Scotia Community College, Red River College, Saskatchewan Polytechnic, University of Fraser Valley	6
Library and Information Technician	Algonquin College, Conestoga College, Confederation College, Durham College, Mohawk College, Seneca College	6
Library Information Technology	SAIT	1
Information and Library Technologies	John Abbott College	1

Table 3: Department Affiliation by Institution

Department within the Institution	Name of Institution	Total
School of Business	Durham College, MacEwan University, Nova Scotia Community College, Seneca College	4
Continuing Education	Conestoga College, Confederation College, Mohawk College	3
School of Information and Communication Technology	SAIT, Saskatchewan Polytechnic	2
Community Services	Red River College	1
Faculty of Professional Studies	University of Fraser Valley	1
School of Health and Community Studies	Algonquin College	1
Science and Technology	Langara College	1
No department affiliation	John Abbott College	1

Table 4: Diploma Transferability by Program (Current to August, 2016)

Program	Transferability
Algonquin College	<ul style="list-style-type: none"> ● Bachelor of Arts (1 year) (Carleton University) ● Bachelor of Business Administration - General Business (1.5 years) (Davenport University, USA) ● Bachelor of Professional Arts Communication Studies (2 years) (Athabasca University) ● Bachelor's Degree (<1 year) (Wilfrid Laurier University)
Confederation College	Limited general transfer
Conestoga College	Limited general transfer
Durham College	<ul style="list-style-type: none"> ● Bachelor of Business Administration - General Business (1.5 years) (Davenport University, USA)
John Abbott College	No information available
Langara College	No formal agreements, some program electives may transfer to university programs
MacEwan University	<ul style="list-style-type: none"> ● Bachelor of Arts (1.5 years) (MacEwan University)

	<ul style="list-style-type: none"> • Bachelor of Arts (1 year) (University of Alberta) • Bachelor of Professional Arts: Communication Studies (2 years) (Athabasca University) • Bachelor of Professional Arts: Governance, Law and Management major (2 years) (Athabasca University)
Mohawk College	<ul style="list-style-type: none"> • Bachelor of Information Studies (1 year) (Charles Sturt University, Australia) • Bachelor of Professional Arts Communication Studies (2 years) (Athabasca University)
Nova Scotia Community College	<ul style="list-style-type: none"> • Bachelor of Applied Management (2 years) (University of New Brunswick, Saint John)
Red River College	<ul style="list-style-type: none"> • Bachelor of Professional Arts Communication Studies (2 years) (Athabasca University)
SAIT	<ul style="list-style-type: none"> • Bachelor of Management (1 year) (Athabasca University) • Bachelor of Professional Arts: Governance, Law and Management major (2 years) (Athabasca University) • Bachelor of Professional Arts Communication Studies (2 years) (Athabasca University) • Bachelor of Technology in Technology Management (2 years) (British Columbia Institute of Technology) • Bachelor of Arts in Interdisciplinary Studies (2 years) (Royal Roads University) • Technology Infrastructure Management (2 years) (SAIT) • Bachelor of Applied Management (2 years) (University of New Brunswick, Saint John) • Bachelor of Arts (Honours) in Educational Studies and Digital Technology (2 years) (University of Ontario Institute of Technology) • Bachelor of General Studies (2 years) (University of Fraser Valley)
Saskatchewan Polytechnic	<ul style="list-style-type: none"> • Bachelor of Professional Arts Communication Studies (2 years) (Athabasca University) • Bachelor of Arts (<1 year) (University of Regina) • Bachelor of Education (<1 year) (University of Regina) • Bachelor of Arts (<1 year) (University of Saskatchewan) • Bachelor of Education (<1 year) (University of Saskatchewan)
Seneca College	<ul style="list-style-type: none"> • Bachelor of Professional Arts: Governance, Law and Management major (2 years) (Athabasca University) • Bachelor of Professional Arts Communication Studies (2 years) (Athabasca University) • Bachelor of Applied Management (2 years) (University of New Brunswick, Saint John) • Honours Bachelor of Arts (1 year) (Wilfrid Laurier University) • Any relevant degree or major (1 year) (York University)
University of Fraser	<ul style="list-style-type: none"> • Bachelor of General Studies (2 years) (University of Fraser Valley)

Valley	<ul style="list-style-type: none"> • Bachelor of Arts in Adult Education (2 years) (University of Fraser Valley) • Any relevant degree (<0.5 year) (University of Fraser Valley)
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Table 5: Most and Least Mentions by ALISE Subject and Class

Most Mentioned Subject		Least Mentioned Subject	
Subject	Class	Subject	Class
Database and Retrieval Systems	Information Systems and Retrieval	Scholarly and Scientific Communication	Services to User Populations
Information Retrieval Theory and Practice	Information Systems and Retrieval	Instructional Design	School Libraries
Classification and Subject Analysis	Organization of Information	Information Visualization	Information Systems and Retrieval
Descriptive Cataloguing/AACR	Organization of Information	Information Integrity and Security	Information Systems and Retrieval
Electronic Reference Services	Services to User Populations	Independent Study	Other
Online Catalog Retrieval Systems	Information Systems and Retrieval	Museums	Type of Libraries and Information Providers
Reference and Information Services	Services to User Populations	Knowledge/IR Management	Organization of Information
Information Systems and Technologies	Information Systems and Retrieval	Information Policy	Development/Principles of LIS
LIS as a Profession	Development/Principles of LIS	Information Architecture	Information Systems and Retrieval
Acquisitions Theory and Practice	Collection Development	Curriculum Integration	School Libraries